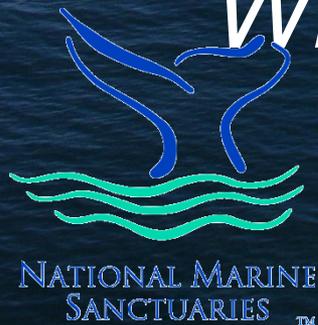


*Gulf of the Farallones National
Marine Sanctuary
White Shark Stewardship Project*

**Naturalist Training
August 3, 2013**



GNFMS Shark Stewardship Project

1. Permitting
2. Naturalist Training
3. Monitoring
4. Public and Boater Outreach
5. Educational Programs



Primary goal is to protect and conserve the white shark population that uses the sanctuary.



Brief History of GFNMS Regulations

NOAA ONMS released joint final management plan for Cordell Bank, Gulf of the Farallones and Monterey Bay national marine sanctuaries (2008).

The plan was the result of **seven years** of study, planning and extensive public input.

Wildlife disturbance working group recommended (in 2003) to the GFNMS SAC that NOAA establish regulations protecting white sharks in sanctuary waters

Regulations were written and implemented in 2009; WSSP was created shortly thereafter



Reasons for Sanctuary Regulations

Federal Register (73 FR 70488)

<http://edocket.access.gpo.gov/2008/pdf/E8-27220.pdf>

- Address disturbances related to shark diving programs and other wildlife watching operations.
- Address recreational boaters who opportunistically approach white sharks.
- Resolve user conflicts between shark researchers and adventure tourism.
- Prevent interference with white shark feeding.



Sanctuary Regulations (NMSA)

Within the GFNMS (15 CFR Section 922.82(a)(13)

- 1) attracting a white shark throughout the sanctuary, or
- 2) approaching within 50 meters (164 feet) of any white shark within the line approximating 2 nautical miles around the Farallon Islands.

Within the MBNMS (15 CFR Section 922.132(a)(13)

attracting any white shark throughout the sanctuary

“Attract or attracting means the conduct of any activity that lures or may lure any animal in the Sanctuary by using food, bait, chum, dyes, decoys (e.g., surfboards or body boards used as decoys), acoustics or any other means, except the mere presence of human beings (e.g., swimmers, divers, boaters, kayakers, surfers).” 15 CFR Part 922.

White Shark Permits

GFNMS may issue a permit if a proposed activity:

- Further research or monitoring related to sanctuary resources and qualities;
- Further the educational value of the sanctuary;
- Assist in managing the sanctuary.

And the activity meets 15 CFR 922.83 criteria, such as:

- Professional and financial qualifications,
- Use of appropriate methods,
- End value of activity in furthering sanctuary goals,
- Degree of impact

Examples of activities that may involve attracting or approaching white sharks	Permit category
Educational Filming for Broadcast Media	Education
Educational Tourism	Education
Science	Research



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Education Permit Special Conditions (On-The-Water Etiquette)

- Decoys should be made of soft material (like carpet) in the shape of a local pinniped.
- Boats may not be underway with decoy deployed; only deployment and retrieval by hand is allowed.
- Sharks may not be fed at any time and chum/bait may not be used as an attractant.
- Operators should not interfere with any natural white shark feeding event and must not approach within 50 m (164 feet) of a white shark.
- Naturalist Training is required. At least one naturalist that completed the sanctuary naturalist training on board per trip.
- Operators should convey conservation messages to any passenger/ broadcast filming operation onboard.



Permit Conditions (continued)

- Operators may be required to accommodate a GFNMS-designated observer on multiple trips throughout the season.
- Daily Expedition logs should be recorded and submitted to GFNMS at the end of the season. 2013 Season permit season for tour operators will run Sept 1- Nov 30. **(Logs are due by December 15, 2014).**
- Operators must comply with California boating regulations restricting noise and limiting speed to 5 nautical miles per hour within 1000 ft of Farallon Island and other special closure restrictions (see CA DFW website).



Other Federal and State Agencies with Oversight of White Sharks in California

- CA DEPT. OF FISH AND WILDLIFE (formerly DFG):
Prohibits catching/ taking white sharks under the Fish and Game Code.
 - Scientific collecting permit for capturing/ tagging/ tissue sampling
 - (For 2013) “take” permit (under the state ESA) (candidate species get full protection)

NOAA NMFS

- Letter of Approval (LOA) to possess marine mammal blubber (pinnipeds or cetaceans) to attract white sharks (under the MMPA)
 - Typically issues LOA for research



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Naturalist Training

- Educate participants about the Sanctuary.
- Provide information on latest research, natural history of local white shark population and global information.
- Equip naturalists with conservation messages to inspire white shark stewardship among clients.
- Inform how to comply with permitting program and procedures.
- Get feedback from the operators/ community on additional resources needed / effectiveness.



WSSP Monitoring

Fall 2013:

1. Continue Vessel Monitoring Project (Point Blue) to determine vessel activity patterns related to white shark encounters/ wildlife viewing and predation events
2. Boat-based GFNMS Observer Program
3. Reports/ logs from researchers, tour operators

Long-Term Monitoring Goals

A white shark is swimming in deep blue water, viewed from above. The shark's body is dark on top and lighter on the bottom, with its dorsal fin visible. The water is a deep, dark blue, and the lighting is somewhat dim, creating a moody atmosphere.

Determine the impacts of human activities on white sharks near the Farallon Islands.

Assess effectiveness of permit conditions.

Determine compliance with sanctuary regulations.

Detect emerging issues to help guide decisions to protect white sharks.

GFNMS Observers



- **Goals:**
 - Observe and assess educational content of tours.
 - Evaluate effectiveness of their messages and techniques.

- **Objectives:**
 - Observe on-the-water activities – focusing on 5 conservation messages and delivery to passengers.
 - Provide sanctuary presence.
 - Develop recommendations.

White Shark On-Board Observer Form

Date: _____ Vessel name: _____ Time arrive island: _____
 Name of GFNMS trained naturalist: _____ Time depart island: _____
 To your knowledge, was **FILMING** of white sharks for commercial purposes conducted during the trip? Describe. YES NO

CONSERVATION MESSAGES

Mark each time the general idea of each message is heard and whether it is given to: whole group; small group; or 1 individual

	Gulf of Farallones National Marine Sanctuary protects the wildlife and habitats of one of the most diverse and bountiful marine environments in the world.			White sharks depend on the rich sanctuary ecosystem and as apex predators, play a key role in maintaining a balanced ecosystem.			White sharks are considered internationally threatened and they need protection.			Common myths have vilified white sharks. Debunk the myth - we are more of a threat to them than they are to us.			You can help conserve sharks - the information you share plays a critical role in the protection of the species.		
	w.Gr.	Sm.Gr.	Indlv.	w.Gr.	Sm.Gr.	Indlv.	w.Gr.	Sm.Gr.	Indlv.	w.Gr.	Sm.Gr.	Indlv.	w.Gr.	Sm.Gr.	Indlv.
Tally (anytime general idea of message is conveyed)															
Total Tallies															

OUTREACH MATERIALS

Are outreach materials provided for clientele? If so, please describe. _____

SHARK ENCOUNTER

Approximate distance to shark (ft)	Description of encounter	Duration (sec.)

MESSAGING EFFECTIVENESS

Are clients retaining information?

BEFORE

Do you know about the sanctuary? What do you know about the sanctuary?

Have you ever been diving with sharks before? What do you know about white sharks? How did you become interested in sharks?

Form completed by: _____

Record clients name, if possible:

AFTER

Did you find anything about the sanctuary you didn't know before?

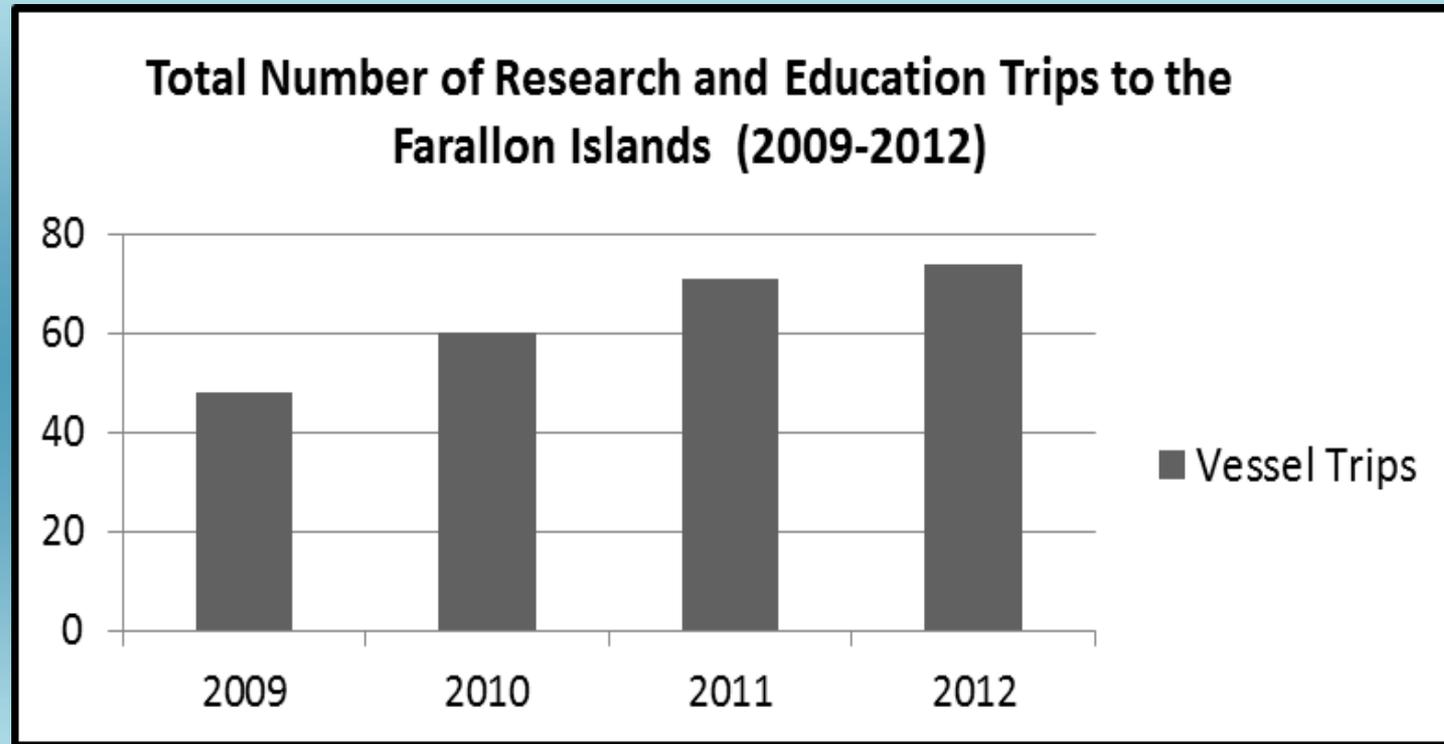
What did you learn about sharks during the trip today that you didn't know prior?

Summary of Educational Permit Expedition Logs (2009-2012)

	2009	2010	2011	2012
No. of Trips	34	48	57	56
No. of Tour Operators	3	2	3	3
Estimated # of Visitors	520	690	795	750



Summary of Trips to the Farallones 2009-2012 (Research and Education Tours)



Average of 63 trips a year for educational tours and researchers



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WSSP Public and Boater Outreach

Raise awareness
of regulations to
encourage
stewardship and
enhance
compliance
(USCG, CA DFW,
USFWS)



BE AWARE:



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NEW REGULATIONS TO PROTECT WHITE SHARKS ARE IN EFFECT

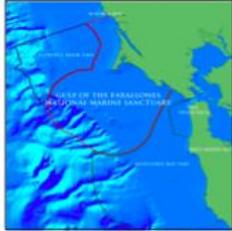
To protect one of the most important white shark populations in the world, NOAA/Office of National Marine Sanctuaries has enacted new regulations to ensure sharks are not disturbed (15 CFR Part 922)

FEDERAL LAW PROHIBITS:

1. Attracting a white shark *anywhere* in Gulf of the Farallones or Monterey Bay National Marine Sanctuaries.
Attract or attracting means the conduct of any activity that lures or may lure a white shark in the Sanctuary by using food, bait, chum, dyes, decoys (e.g., surfboards or body boards used as decoys), acoustics or any other means, except the mere presence of human beings (e.g., swimmers, divers, boaters, kayakers, surfers).
2. Approaching within 50 meters (164 ft.) of any white shark within 2 nautical miles of any of the Farallon Islands.

DID YOU KNOW...?

White sharks play an important role by keeping fast-growing seal and sea lion populations in balance. White sharks are already protected in California waters from hunting or fishing. The new federal regulations will help ensure they are not disturbed by unauthorized activities.



FOR MORE INFORMATION:
**GULF OF THE FARALLONES
NATIONAL MARINE
SANCTUARY**
San Francisco CA 94129
415/ 561-6622
<http://farallones.noaa.gov>

Education Programs

- Oceans Afterschool program
(shark class; works with underserved kids)
- Shark Mobile Program
(works with 4th through 6th graders; teaches students about sharks, skates and rays)
- “Sharktobberfest”
(participation with Shark Stewards)



Draft Programmatic Environmental Assessment

Scope

Assess effects of white shark research and education activities (under NEPA) that are either occurring or anticipated to occur within the GFNMS and MBNMS over the next five years.

Status

- Initially drafted and released for comment in 2010
- Sent back to GFNMS in revision / updates on new available information
- New expected release date for public comment in Fall 2013
- GFNMS will notify all interested parties when available; to receive a copy of the Draft PEA, contact Max Delaney (max.delaney@noaa.gov or at (415) 970-5255)



**DRAFT PROGRAMMATIC ENVIRONMENTAL ASSESSMENT OF
POTENTIAL WHITE SHARK RESEARCH AND EDUCATION
PROJECTS WITHIN THE GULF OF THE FARALLONES AND
MONTEREY BAY NATIONAL MARINE SANCTUARIES**



**Office of National Marine Sanctuaries
National Ocean Service
National Oceanic and Atmospheric Administration
U.S. Department of Commerce**

May 2013



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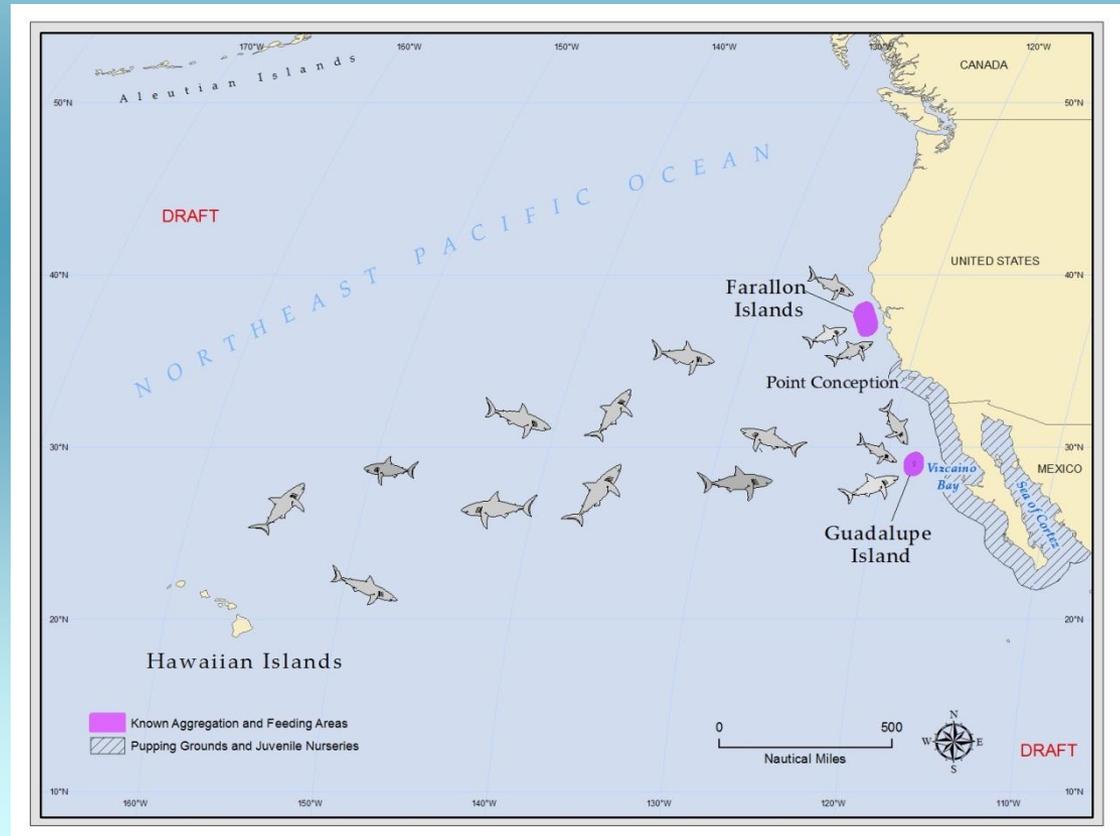
NOAA Fisheries Service

Status Review of NEP Population of White Sharks

- SUMMER 2012 - Received 2 petitions to list the Northeastern Pacific population of white sharks under the federal Endangered Species Act (ESA).
- FALL 2012 – Issued a 90-day finding that the petitions presented substantial scientific evidence that listing may be warranted
- Formed a Biological Review Team (BRT) to consider a variety of scientific and technical information and conduct its own independent analyses.
- JUNE 2013 – Completed a roughly 12-month review and issued final status review report (peer reviewed by three independent scientists.)



NEP Population (i.e. utilizing coastal shelf waters of North America primarily from central California to Baja California; the slope and offshore waters of the Hawaiian archipelago; and offshore waters approximately halfway between California and Hawaii



NMFS Review Process

Threats:

- 1) fisheries mortality in U.S., Mexican and international waters,
- 2) loss of prey due to overharvesting,
- 3) small population effects,
- 4) disease and predation,
- 5) habitat degradation linked to contaminants, and
- 6) global climate change.

Population status and trends

Abundance

Genetic data



NMFS BRT FINDINGS

Northeastern Pacific (NEP) white shark population both “discrete” and “significant” to the global white shark species; meets the criteria to be a distinct population segment under the ESA

NEP white shark population likely at a low to very low risk of extinction now and in the foreseeable future; not appropriate to list at this time under ESA.

Bycatch of YOY / artisanal fisheries in Mexico deemed biggest potential threat; population trend likely stable or slightly increasing.

Acknowledge lots of data gaps and uncertainty.



NMFS RECOMMENDATIONS

- Continuation of photo-ID studies at Guadalupe Island, Mexico and central California including: 1) comparing the two databases; and 2) expanding temporal and spatial scope to encompass more of the range of white sharks.
- Expanding genetic studies to: 1) include nuclear markers; 2) compare samples from both aggregation sites and across the range; and 3) analyze samples of YOY / juveniles with a focus on identifying parents.
- Tagging studies should: 1) focus efforts outside of the two current aggregation sites; 2) deploy more SPOT tags on mature females; 3) tag more juveniles in the U.S; 4) and tag juveniles / YOY in Mexico.
- Continuation of fisheries monitoring in Mexico (sampling at markets; using genetics to validate species ID)
- Continue MBA biological sampling program on catch in U.S. waters
- Examine potential impacts of both pollutants and ocean acidification on sharks.



California Department of Fish and Wildlife (formerly DFG) Status Review of NEP of white sharks under State ESA

- SUMMER 2012 – Also received 2 petitions to NEP of white sharks under the State ESA
- FALL 2012 – Issued a 90-day finding that the petitions presented substantial scientific evidence that listing may be warranted
- AT PRESENT – Still finishing review; final report and determination expected in March 2014



Questions?

GFNMS WSSP Website (announcements, resources, documents)

<http://farallones.noaa.gov/eco/sharks/sharks.html>

Suggested Reading List for Naturalists

(will be available on GFNMS website)

GFNMS Permit Information:

<http://farallones.noaa.gov/eco/permits/permits.html>

Permitting & White Shark Stewardship Project Coordinator:

Max Delaney (max.delaney@noaa.gov; 415-970-5255)

